

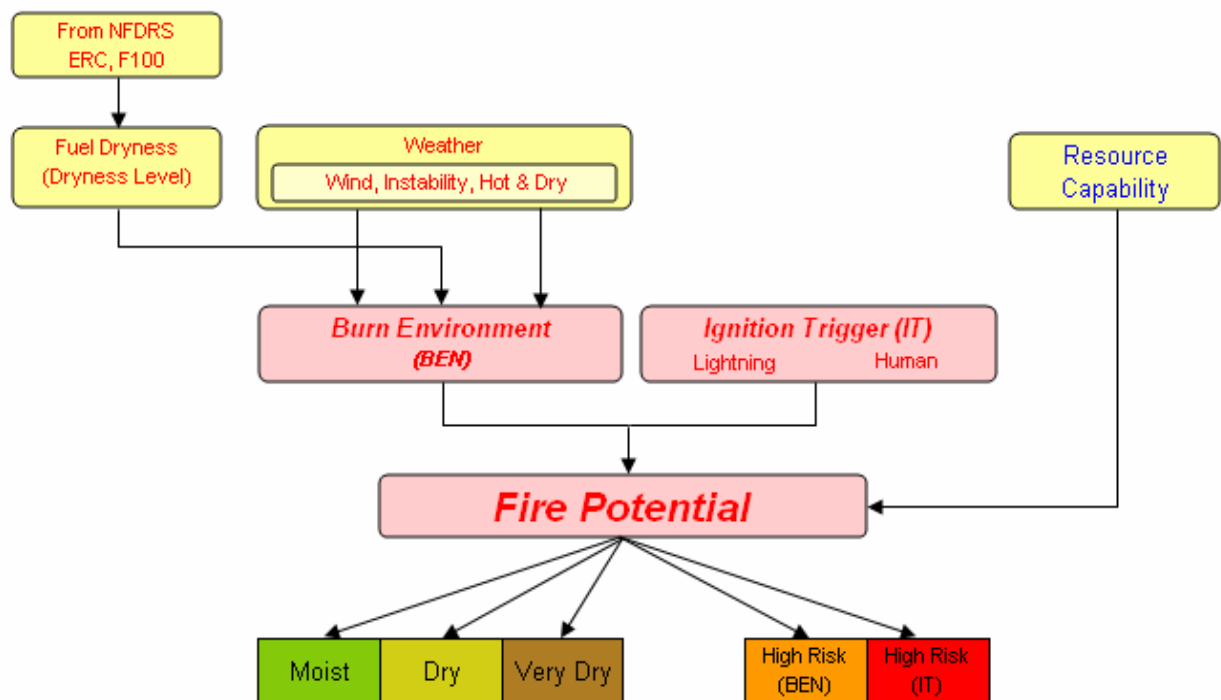


EXPLANATION OF THE 7-DAY SIGNIFICANT FIRE POTENTIAL PRODUCT

Significant Fire Potential

The primary responsibility of Predictive Services is to provide sound guidance to regional and national resource managers concerning current and projected “Significant Fire Potential”. The goal of this guidance is to help these managers make effective and efficient use of available resources. “Significant Fire Potential” is defined as “the likelihood that a wildland fire event will require mobilization of additional resources from outside the area in which the fire situation originates”. *It is crucial to understand that although weather is a major contributor to Significant Fire Potential, this product is not a weather forecast.* It is a forecast of Significant Fire Potential only, which is a function of fuel conditions, weather, and resource availability. It assesses the daily probability for occurrence of a new large fire and/or the daily potential for significant new growth on existing fires.

Fire Potential Model



Wildland Fire Event

A wildland fire event occurs over a relatively short period of time, often measured in days, and is usually evaluated by either fire size, number of ignitions, or by the complexity of the situation. When pre-set thresholds are reached the potential for significant fires increases.

- For this product a Large Fire is defined as a fire meeting the size of the top 5% of historic “daily largest fires” during a typical fire season for each PSA.
- When enough ignitions occur over a short period of time Initial Attack resources can be overwhelmed leading to an elevated chance of large fires. The threshold for number of ignitions over a set period of time is determined locally through a statistical analysis.
- The complexity of the terrain in which fires occur, including aerial coverall and accessibility to the terrain in which the fires occur, can also determine the potential for significant fire development.

Fuel Dryness Levels (DL)

“Dryness level” (DL) is a combination of one or two fuel dryness and/or fire weather indices which correlate well to large fire occurrence.

- Moist (Green) – a burn environment which has historically resulted in a very low or no probability of new large fires or significant growth on existing fires.
- Dry (Yellow) – a transitional burn environment that will not typically result in new large fires or significant growth on existing fires (but may, if accompanied by a critical weather or ignition trigger event).
- Very Dry (Brown) – a very dry burn environment which results in a higher than normal probability of significant fire growth and new large fires, especially when accompanied by a critical weather or ignition trigger event.

High Risk Days

High Risk Days are rare occasions when conditions exist that historically have yielded a significantly higher than normal chance for a new large fire or for significant growth on existing fires. *On the average, days in this category have about a 20% or better chance of large fire occurrence assuming ignitions actually occur.* There are three contributing factors for a High Risk Day: Critical Burn Environment, Ignition Triggers and Resource Availability.

- Critical Burn Environment (Orange) - A Critical Burn Environment results when a combination of sufficiently dry fuels and critical weather conditions are expected. Examples of critical weather conditions are high winds, low humidity, an unstable atmosphere and very hot weather. An Orange box will be used with a symbol representing the weather condition responsible for the critical burn environment.
- Ignition Triggers (Red) - Unlike the burn environment which merely promotes or inhibits fire growth should a fire occur, an Ignition Trigger actually starts fires. A lightning outbreak is the most common Ignition Trigger, but others are possible depending on the geographic area (e.g. strong winds in areas that experience Santa Ana winds). A Red box will be used with a symbol representing the Ignition Trigger.

- **Resource Availability** - When enough fires occur within a geographic area, Initial Attack resources can be overwhelmed, leading to an elevated chance of large fires. Also, sending resources to fires in other geographic areas will increase the probability of large fire occurrence in our home GACC, since our ability to respond quickly to new ignitions is impaired.

The Product

The 7-day chart is divided up into PSAs, with color-coded forecast DL values for each of the next 7 days (including the observed reading for the previous day). High Risk Days are highlighted with orange or red boxes, and include a symbol for the associated weather or trigger element. Below the 7-Day Chart, a Weather Synopsis and a Fire Potential Discussion are included, as well as an assessment of Available Resources for Initial Attack activity. There may also be links to additional products that display a 7-day outlook of maximum temperature, minimum relative humidity, and fire weather indices for each PSA with a comparison to historical values.

Issued: Friday, Jun 13, 2008

Updated Daily at 1000 MDT

Predictive Service Areas	Ytd Jun 12	Fri Jun 13	Sat Jun 14	Sun Jun 15	Mon Jun 16	Tue Jun 17	Wed Jun 18	Thu Jun 19
SW01 Northwest AZ								
SW02 West-Central AZ								
SW03 Southwest AZ								
SW04 Four Corners Area								
SW05 Western Mogollon Rim								
SW06N Central AZ/Phoenix Metro								
SW06S Southeast AZ								
SW07 Northwest NM Mtns.								
SW08 White Mtns. & Gila Region								
SW09 South/Cntrl. NM Lowlands					H	H		
SW10 Sangre de Cristo Mtns.							⚡	
SW11 Central NM Mtns. & Plains					H	H	⚡	
SW12 South-Central NM Mtns.					H	H	⚡	
SW13 Northeast NM/NW TX								
SW14N Southeast NM/West TX					H	H		
SW14S Southwest TX/Big Bend					H	H	H	

Resource Demand Component – The Southwest product includes an Anticipated Resource Demand table which considers resource impact in light of the forecast fire potential. Detailed information involving this component of the significant fire potential model can be found at the location below:

http://gacc.nifc.gov/training/intelligence/support_programs/ard/7-day_definition_file_web.pdf

NWCG Glossary

Fuel Dryness Level (DL) - A quantitative measure of fuel moisture and receptability to ignition as determined by an accepted Fire Danger Rating System index that influences fire growth, intensity, or activity.

High Fire Risk Day - A day when an ignition trigger and/or significant weather trigger and an appropriate fuel dryness level combine to create conditions that historically have resulted in a significant fire event for a particular area.

Ignition Trigger - A causative agent for wildland fire. For example, human or lightning.

Large Fire - For statistical purposes, a fire burning more than a specified area of land e.g., 300 acres.

Significant Fire Event - An event measured by the occurrence of fire(s) that requires mobilization of additional resources from outside the fire event area.

Significant Fire Potential - The likelihood a wildland fire event will require mobilization of additional resources from outside the area in which the fire situation originates.

Significant Weather Trigger - A weather phenomenon resulting in an environment that has a significant impact on fire spread, intensity, or occurrence. Example: strong wind, unstable air mass, etc.